

and employee population at each. To make possible the segregation of the tuberculous who are being found and who will be found, the post-war building plans of the Department of Institutions call for four new tuberculosis buildings; additions to the units at Napa and Patton, and new units at Sonoma and Pacific Colony. These buildings will aggregate enough beds to segregate all the patients whom we expect to find, but they will be so constructed that they can be converted, ward by ward, for the use of patients who have no tuberculosis. This is a wise provision, because, once the initial survey and segregation have been accomplished, the number of beds necessary for tuberculosis will rapidly decrease. Intramural infection will become uncommon. When buildings are ready for occupancy, additional physicians with training in tuberculosis will be engaged, and these specialists, in addition to their clinical tasks, will play a major rôle in the survey activities.

It is impossible to avoid the conclusion that the undiscovered tuberculosis in our mental hospitals is one of the most concentrated and dangerous reservoirs of infection in the State. By means of discharged and paroled patients, it seeps continuously into the general community. The Bureau of Tuberculosis feels that its contribution to the control of this menace is one of the most rewarding activities in which it is currently engaged.

217 West First Street.

TUBERCULOSIS IN SONOMA STATE HOME*

F. O. BUTLER, M. D.
Eldridge

THE Sonoma State Home was opened on its present site in November, 1891, with a population of 150.

The first unit for tuberculous patients was built with a capacity of 42 in 1912, when we had a population of approximately 1,000. Additional units have been added since, so that now we have patients in four different buildings for both sexes, with a bed capacity of 121, with extensive overcrowding.

The total population in the Institution on March 1 of this year was 4,186 with 3,286 actually in residence, the remainder being on parole and escape. The total number admitted, since the opening in 1891 to March 1, 1944, was 12,093.

The average age on admission is approximately 17 years and the average age at death of all cases approximately 27 years, or a life span of ten years as against the average for normal individuals, as you know, around 63 years. We feel this short life span is due to the physical and

mental condition of the majority of patients received. This particular type of low-grade patient is undoubtedly a factor for the increased percentage of the tuberculous over that of normal individuals. Also, there is more overcrowding in our low-grade cottages.

PRESENT X-RAY POLICY STARTED IN 1934

It has always been the policy of the Institution to segregate and treat active communicable pulmonary tuberculosis. However, it was not until 1934 that we arranged a definite system of tuberculin testing all patients and x-raying all positive reactors. This survey has continued to the present time. During this period of 10 years, 6,485 patients have been examined, 500, or 7.7 per cent of which have been diagnosed as having tuberculosis. They were classified as follows: 186 minimal, 157 moderately advanced, 41 advanced, 19 miliary, 40 childhood, 44 arrested, 1 tubercular spine, 7 unclassified. Of these 500, 67 per cent were idiots and imbeciles, and the other 33 per cent morons and borderlines, thus bearing out that tuberculosis does predominate in the lower group mentally and physically, and where overcrowding is most prevalent. Some 145, or 16 per cent of our deaths in the institution, are due to tuberculosis, their average at death being 23 years. Average age at time of diagnosis is 24 years.

In July, 1941, because tuberculosis occasionally occurred in a "negative tuberculin" patient, it seemed wise to have at least one x-ray on record of every patient in the institution. Therefore, it has developed that we x-ray, tuberculin test and obtain a clinical record of every new patient in the institution, and we have extended the x-ray survey to include all old patients, until by now nearly all have been either x-rayed or fluoroscoped. All negative tuberculins are repeated in one year. All patients going out on parole are x-rayed unless they have been examined in recent months.

FLUOROSCOPIES EVERY SIX MONTHS

In the past year, because of the shortage of film and storage space, an extensive fluoroscopic program has been instituted, with the goal that almost every patient in the institution be fluoroscoped every six months and x-rayed at the time of fluoroscopy, if indicated. The interval of six months was chosen because there had been several instances where apparently negative chests had been found to have developed communicable tuberculosis within a year following examination. The elderly and extremely crippled patients are gradually being deleted as soon as their chests are determined to be negative for tuberculosis. They are to be checked when indicated.

All new employees are tuberculin tested and x-rayed. All employees with tuberculosis are referred to their family physician for care and treatment. Arrested cases are checked in the institution twice yearly. Some survey work has

* From the Sonoma State Home, Eldridge, California. Read before the California Tuberculosis and Health Association and the California Trudeau Society in a symposium on Tuberculosis in Institutions in California, Los Angeles, March 29, 1944.

been done among employees, especially in wards or cottages where tuberculous patients have been found. So far, this has resulted in the finding of one employee with active tuberculosis, which we felt was a result of contact in the institution. We hope to extend this survey so that each employee has at least one x-ray for record and subsequent fluoroscopic examination yearly. In the meanwhile they may voluntarily come for this examination. Also all employees on the wards and cottages are to have a tuberculin test once yearly until the test becomes positive. All tuberculosis hospital nurses are x-rayed twice yearly, and it has been recommended that a tuberculin be done every six months until positive.

NO DECLINE IN NUMBER OF DIAGNOSES

During the past ten years the number of diagnoses made has not appreciably declined. There are probably several explanations for this: (1) It has taken us a number of years to get through the institution on survey because of lack of personnel. (2) Development of contact cases, due in part at least to overcrowding. (3) Lack of frequency of review. In the next several years we anticipate a decline. However, there are a number under observation for diagnosis at present, and there will be some who will develop tuberculosis from previous contacts. Some will be admitted from the outside. The death rate remains fairly constant.

In the past ten years approximately 35 cases have been admitted here who were diagnosed prior to admission, and since we have been x-raying all new admissions we have diagnosed a number who had no previous record of tuberculosis.

Treatment consists of bed rest and general care, collapse therapy, pneumothorax, phrenemphraxis, etc., as indicated. Since about 1940 or 1941, 122 patients have been treated with pneumothorax. Of this number 27 are now arrested, 38 are on active treatment with adequate collapse, 21 were abandoned because collapse therapy was unsuccessful or inadequate, seven abandoned because of uncoöperativeness of the patient, 17 died from tuberculosis, two died from other causes, five were transferred or escaped, and five on parole, either arrested or maintaining adequate collapse. Fifteen phrenemphraxis, 23 pneumonolyses and one thoracoplasty have been done. Fifty-eight per cent of those under pneumothorax treatment fell in the idiot and imbecile classification.

POST-WAR PLANS DEVELOPED

For the furtherance of work in tuberculosis in the Sonoma State Home we now have post-war plans fairly well developed for the construction of a new tuberculosis hospital with a bed capacity of approximately 200, with a rounded out personnel to properly operate such a building in every detail. Our hope in time is to be able to make a better showing than we have been able

to do in our old and overcrowded, inadequate buildings, which were really condemned many years ago, but for which we have been unable to secure money sufficient to build the modern type construction. This building is at the head of the list of our post-war building program at Sonoma in the amount of over seven million dollars. Plans are that immediately the war is over we will begin construction, the hope being that in time tuberculosis can be so controlled that the building can gradually be turned over for other uses in the institution.

Sonoma State Home.

EXPERIENCES AT PATTON STATE HOSPITAL*

R. E. SMITH, M. D.
Patton

TUBERCULOSIS has long been recognized as a problem by the authorities of the State Hospitals of California. In the late twenties, Patton State Hospital was selected as the place for hospitalization of known tuberculous patients from other mental institutions of the State. Cubicles built into two of the wards were the only provision made for these patients, at first. Seven years ago two new buildings were put up for the housing of tuberculous patients. These each had a bed capacity of 45 to 50. These wards or cottages were increased in size, two years ago, so that now there are beds for 135 male and 135 female tuberculous patients. Emphasis has always been upon segregation. Rest, nourishment and collapse therapy, by artificial pneumothorax and by pneumoperitoneum, are the principal means of treatment used thus far.

Some indication of the seriousness of the problem presented by tuberculosis is given by the annual death rate due to the disease. For the fiscal year ending June 30, 1943, the total number of deaths at Patton State Hospital was 297. Tuberculosis was given as the cause of death in 61 or 20.5 per cent of these cases.

The patients already segregated in the tuberculosis wards were studied carefully and reclassified from the standpoint of present status and exact diagnosis.

TABLE 1

<i>Female Patients</i>	135	
Found to be arrested or non-tuberculous	42	31.1%
Minimal active	33	24.4%
Moderately advanced	32	23.7%
Far advanced	28	20.7%

TABLE 2

<i>Male Patients</i>	113	
Now arrested or non-tuberculous	24	21.2%
Minimal	27	23.9%
Moderately advanced	33	29.2%
Far advanced	29	25.6%

* From the Patton State Hospital, Patton.

Synopsis of a paper read before the California Tuberculosis and Health Association and the California Trudeau Society in a symposium on Tuberculosis in Institutions in California, Los Angeles, March 29, 1944.